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IS 1531 (1993): Textiles - Blanketing cloth [TXD 4: Wool and Wool Products]

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वस्त्रादि — कम्बल बनाने का कपड़ा — विशिष्टि

(दूसरा पुनरीक्षण)

Indian Standard

TEXTILES — BLANKETING CLOTH — SPECIFICATION

(*Second Revision*)

UDC 677·31·074 : 645·482-037·31

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

July 1993

Price Group 3

Wool and Wool Products Sectional Committee, TX 04

FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Wool and Wool Products Sectional Committee had been approved by the Textile Division Council.

The cloth covered by this standard is intended for use as insulating lining material in case of variety No. 1 and for making coats, coarse rugs and covers for tank mules for variety No. 2 by the Ministry of Defence.

In the present revision mainly the mothproofing requirement and the sampling plan have been modified.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

AMENDMENT NO. 1 OCTOBER 1998
TO
IS 1531 : 1993 TEXTILES — BLANKETING CLOTH — SPECIFICATION

(Second Revision)

(*Page* 1, *clause* 4.2.1) — Substitute the following for the existing clause:

'4.2.1 *Moth-proofing*

The fabric shall be rendered moth-proof by using any suitable moth-proofing agent subject to prior approval of buyer. The supplier shall indicate the type of moth-proofing agent used, its concentration and also the test method for its evaluation. In case of new moth-proofing agent used, besides furnishing the above the supplier shall render a certificate issued by Government authorised test house about the efficacy of the moth-proofing agent used and also of its being free from any undue toxicity.

If for any reason the fabric has not been rendered moth-proof, the same shall be packed/supplied with naphthalene conforming to IS 539 at a minimum quantity of 5 kg/m^3 of volume of the package.

NOTE — For evaluation of moth-proofing agent used a reference may be made to IS 3522 (Part 3).'

(*Page* 1, *clause* 4.2.1.1) — Delete.

(TX 04)

Reprography Unit, BIS, New Delhi, India

Indian Standard

TEXTILES — BLANKETING CLOTH — SPECIFICATION

(Second Revision)

1 SCOPE

1.1 This standard prescribes the constructional particulars and other requirements of two varieties of blanketing cloth.

1.2 This standard does not specify the indeterminable characteristics like general appearance, feel, finish and shade of cloth (*see* also **6**).

2 REFERENCES

The Indian Standards listed in Annex A are necessary adjuncts to this standard.

3 TERMINOLOGY

For the purpose of this standard, the definitions as given in IS 11206 : 1984 shall apply.

4 MANUFACTURE

4.1 The particulars regarding the grade of wool fibres, count of yarn and finish for the manufacture of cloth are given in Table 1. The approximate count of yarns are given for guidance only.

4.2 Cloth

The cloth shall be clean, scoured and free from grease, soap, filling or any other admixture which might give fictitious mass, substance or firmness. The cloth shall be uniformly woven with firm selvedges.

4.2.1 *Mothproofing*

If required by the buyer the cloth shall be rendered moth-proof by suitable chemicals as per IS 11662 : 1986, which will not have toxic effect on human body. The manufacturer shall declare the mothproofing chemicals used, the minimum residual content and the method of test for determining the same.

4.2.1.1 The amount of preservatives used shall be determined by the methods given in IS 3522 (Part 3) : 1983.

4.2.2 *Freedom from Defects*

The cloth when visually examined both against light and on a surface shall not have more than one objectionable flaw per 8 m length. The objectionable flaws shall be those which strike immediately the eyes of the person examining the cloth and shall be deemed to include:

a) missing ends and picks;
b) floats;
c) cuts and holes;
d) stains;
e) weft bars and warp section marks;
f) big slubs, knots and specks;
g) dyeing defects (streaks, patches, etc); and
h) thick and thin places.

Table 1 Manufacturing Particulars of Blanketing Cloth

(*Clause* 4.1)

Variety No.	Fitness/Grade of Wool (*see* Notes 1 and 3)	Approximate Count of Basic Yarn [Universal Count (Metric Count)]		Method of Dying	Type of Finish
		Warp	Weft		
(1)	(2)	(3)	(4)	(5)	(6)
1	44 s	400 tex (Nm 2.5)	400 tex (Nm 2.5)	Stock dyeing	Milled and raised finish
2	44 s	500 tex (Nm 2)	500 tex (Nm 2)		

1 The wool fibres shall be of natural colour and may be brown, grey or a mixture of brown and grey as agreed to between the buyer and the seller.

2 The cloth may be piece dyed to an agreed shade; if made from natural white fibre.

3 Material other than wool fibres up to 5 percent may be used to provide a decorative or ornamentation effect (*see* IS 1793 : 1973).

4 For determination of fineness grades of wool, a reference may be made to IS 5910 : 1977.

4.2.2.1 All objectionable flaws shall be marked by means of a thread sewn in the selvedge opposite the flaw, and an allowance of 10 m shall be given for each such flaw. Only one selvedge shall be used for tagging.

4.2.2.2 A reference may be made to IS 4125 : 1987 for details of these defects.

5 REQUIREMENTS

5.1 The constructional particulars of the cloth shall conform to those given in Table 2.

5.2 The other requirements of cloth shall conform to those given in Table 3.

6 SEALED SAMPLE

6.1 If, in order to illustrate or specify the general appearance, feel, shade and finish, etc, of cloth, a sample has been agreed upon and sealed, the supply shall be in conformity with the sample in such respects.

6.1.1 The custody of the sealed sample shall be a matter of prior agreement between the buyer and the seller.

Table 2 Constructional Particulars of Blanketing Cloth
(*Clause* 5.1)

Variety No.	Ends/dm	Picks/dm	Mass	Breaking Load on 15 x 20 cm Strips *Min*		Length (*see* Note)	Width (Exclusive of Selvedges) *Min*	Weave
				Warp	Weft			
(1)	(2)	(3)	(4) g/m^2	(5) N	(6) N	(7)	(8)	(9)
1	60	60	490	660	470	36 and above	140	2/2 Twill
2	70	65	745	980	780		—	
Tolerance, percent	±5	±5	±5	—	—	—	—	—
Method of Test	IS 1963 : 1981	IS 1963 : 1981	IS 1964 : 1970	IS 1969 : 1985	IS 1969 : 1985	IS 1954 : 1990	IS 1954 : 1990	Visual

NOTE — The number of short length pieces (measuring not less than 10 m) shall not exceed 5 percent of the total number of pieces in the lot.

Table 3 Requirements of Blanketing Cloth
(*Clause* 5.2)

Sl No.	Characteristic	Requirement	Method of Test
(1)	(2)	(3)	(4)
1)	Relaxation shrinkage, percent, *Max:*		IS 665 : 1989
	a) Warpway	4.0	
	b) Weftway	4.0	
2)	Colour fastness to (in case of dyed cloth):		
	a) Light (*see* Note)	4 or better	IS 686 : 1985 or IS 2454 : 1985
	b) Water		IS 767 : 1988
	i) Change in colour of the test specimen	4 or better	
	ii) Staining on adjacent fabric	4 or better	
	c) Dry-cleaning		IS 4802 : 1988
	i) Change in colour of the test specimen	4 or better	
	ii) Staining of the solvent	4 or better	
3)	Loss in weight	4 percent	Annex B

NOTE — 1 In case of dispute, colour fastness to light shall be determined by the method prescribed in IS 686 : 1985.

7 MARKING

7.1 The cloth shall be marked with the following:

a) Name of the material;
b) 'Blend Composition', that is, the percentage of wool and polyamide/polyester fibres;
c) Indication of the source of the manufacture;
d) Month and year of manufacture; and
e) Length and width of the piece.

7.1.1 The cloth may also be marked with the Standard Mark.

8 PACKING

8.1 The cloth shall be packed in bales or cases in conformity with the procedure laid down either in IS 32 : 1971 or in IS 741 : 1971 as required.

8.2 Alternatively, the cloth may also be packed according to details given in **8.2.1** when specifically agreed to between the buyer and the seller.

8.2.1 Each piece of cloth shall be suitably folded in a rectangular form or wrapped on cardboard or strawboard of suitable size and thickness. Each piece shall then be wrapped with polyethylene film of a minimum 50 microns thickness or alternatively high density polyethylene film of minimum 25 microns thickness or polypropylene film of minimum 38 microns thickness. The edges of the film shall be properly sealed. Each piece may be tied with a twine at least at 2 places. Such pieces, in a suitable number, shall then be covered in polyethylene film, high modulus, high density polyethylene film or polypropylene film in an outer layer of heavy cee jute cloth (*see* IS 3751 : 1966) to form compact bales. The bales shall be made secure by cross hooping the steel strips at right angles to both the length and the width of the bale. The gross weight of the bale shall not normally exceed 40 kg.

9 SAMPLING

9.1 Lot

The quantity of cloth or same variety delivered to one buyer against one despatch note shall constitute a lot.

9.2 The conformity of a lot to the requirements of the standard shall be determined on the basis of the tests carried out on the sample selected from the lot.

9.3 Unless otherwise agreed to between the buyer and the seller, the number of pieces to be selected at random shall be in accordance with col 1 and 2 of Table 4. To ensure randomness of selection procedure given in IS 4905 : 1968 may be followed.

9.4 Criteria for conformity

Characteristic	*Number of tests*	*Criteria for conformity*
Ends, picks, mass width, visual defects and weave	According to col 2 of Table 4	Permissible number of non-conforming pieces not to exceed the corresponding number given in col 3 of Table 4
Length	According to col 4 of Table 4	Length of each piece not to measure less than specified, declared or marked length
Breaking strength	According to col 4 of Table 4	$\bar{X} - 0.4\,R \geq$ specified value
Relaxation shrinkage	do	$X + 0.4\,R \leq$ specified value
Blend composition, colour fastness ratings, mothproofing and *p*H value of aqueous extract	do	All the test specimens satisfy the relevant requirements

$\bar{X}$ = average value obtained by dividing the sum of the observed values by the number of test results.

R = range, that is, difference between the maximum and minimum in a set of observed values.

Table 4 Sample Size and Criteria for Conformity

(*Clauses* 9.3 *and* 9.4)

Lot Size	Sample Size	Permissible Number of Non-conforming Pieces, *Min*	Sub-Sample Size
(1)	(2)	(3)	(4)
Up to 5	2	0	1
6 to 20	3	0	1
21 to 50	5	0	2
51 to 150	8	0	3
151 to 300	13	1	5
301 and above	20	1	5

ANNEX A

(*Clause* 2)

LIST OF REFERRED INDIAN STANDARDS

IS No.	*Title*
32 : 1971	Code for seaworthy packaging of woollen and worsted yarn and cloth (*second revision*)
655 : 1989	Determination of dimensional changes of fabrics containing wool on soaking in water (*first revision*)
686 : 1985	Method for determination of colour fastness of textile materials to daylight (*first revision*)
741 : 1971	Code for inland packaging of woollen and worsted yarn and cloth (*first revision*)
767 : 1988	Method for determination of colour fastness of textile materials to water (*first revision*)
1745 : 1978	Specification for petroleum hydrocarbon solvents (*second revision*)
1793 : 1973	Guide for marking textile materials made of wool (*first revision*)
1954 : 1990	Methods for determination of length and width of fabrics (*second revision*)
1963 : 1981	Methods for determination of threads per unit length in woven fabrics (*second revision*)
1964 : 1970	Methods for determination of weight per square metre and weight per linear metre of fabrics (*first revision*)
1969 : 1985	Methods for determination of breaking load and elongation of woven textile fabrics (*second revision*)
2454 : 1985	Method for determination of colour fastness of textile materials to artificial light (xenon lamp) (*first revision*)
3522 (Part 3) : 1983	Methods of estimation of common preservatives used in textile industry, Part 3
3751 : 1966	Heavy cee cloth
4125 : 1987	Glossary of terms pertaining to defects in fabrics (*first revision*)
4802 : 1988	Methods for determination of colour fastness of textile materials to dry-cleaning (*first revision*)
4905 : 1968	Methods for random sampling
5910 : 1977	Fineness grades of wool (*first revision*)
11206 : 1984	Glossary of textile terms—Wool and other animal fibres, their processing and products
11662 : 1986	Preservative treatment of textiles

ANNEX B

(*Table* 3)

METHOD FOR DETERMINATION OF LOSS IN WEIGHT

B-1 TEST SPECIMENS

From each piece in the test sample cut a test specimen (square in shape) weighing approximately 10 g.

B-2 REAGENT

B-2.1 Petroleum Hydrocarbon Solvent—Grade of solvent 60/80 (*see* IS 1745 : 1978)

B-3 PROCEDURE

B-3.1 Take a test specimen and trim its sides to complete threads. Pull out three such threads all around the square. Dry the test specimen at 105±3°C for 3 hours and weigh.

B-3.2 Extract the specimen with petroleum hydrocarbon solvent at the rate of 6 cycles per hour in a Soxhlet apparatus for an hour. Remove the solvent by heating in air. Wash the specimen with hot water and squeeze it. Repeat the treatment of washing and squeezing the specimen 12 times.

B-3.3 Treat the test specimen as obtained in **B-3.2** with 0.5 percent neutral soap solution (liquor to material ratio 25 : 1) at 50°C for 30 minutes. Remove the test specimen from the bath and squeeze. Heat the soap solution to 80°C and put the test specimen again in it. Treat the specimen in the soap solution at 80°C for an hour with occasional stirring.

B-3.4 Wash the test specimen with hot water as in **B-3.2**, then with distilled water and boil for 30 minutes and finally with cold water. Dry it at a temperature of 105±30°C for 3 hours and weigh.

B-3.5 Calculate the percentage of loss in mass of the test specimen by the following formula:

$$L = \frac{a-b}{a \times [1 + \frac{c}{100}]} \times 100$$

where

L = loss in mass, in percent, of the test specimen;

a = dry mass, in grams, of the test specimen before treatment (*see* **B-3.1**);

b = dry mass, in grams, of the test specimen after treatment (*see* **B-3.4**); and

c = correction factor for the percentage addition for moisture regain.

NOTE — The value c may be taken as 16 percent; if correct figures could be obtained, they shall be used.

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BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002
Telephones : 331 01 31, 331 13 75

Telegrams : Manaksanstha
(Common to all Offices)

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Central :	Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110002	331 01 31 331 13 75
Eastern :	1/14 C. I. T. Scheme VII M, V. I. P. Road, Maniktola CALCUTTA 700054	37 84 99, 37 85 61 37 86 26, 37 86 62
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Southern :	C. I. T. Campus, IV Cross Road, MADRAS 600113	235 02 16, 235 04 42, 235 15 19, 235 23 15
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